

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Fufang Zha et al.
Serial No: 10/759,560
Confirmation No: 8107
Filed: January 15, 2004
For: SCOURING METHOD
Examiner: Sorkin, David L.
Art Unit: 1797

CERTIFICATE OF TRANSMISSION UNDER 37 C.F.R. § 1.8(a)

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/Nicole A. Palmer/
Nicole A. Palmer

Commissioner for Patents

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Dear Sir:

Claims 1-20 are currently pending in this application, with claim 1 being the sole independent claim. Each of claims 1-20 stands finally rejected, as discussed below. Applicant respectfully requests withdrawal of the rejection of each of these claims because there are clear errors and legal deficiencies in the Examiner's rejection of independent claim 1, as well as of the claims that depend therefrom.

This application was previously on appeal. No amendments pertaining to the above-identified claims have been filed subsequent to the reopening of prosecution by the Examiner based on Applicant's opening appeal brief.

A Notice of Appeal from the Final Office Action dated June 11, 2008 accompanies this filing.

ARGUMENT

Claims 1, 3, 4, 7-15, 17, 19 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Uchida et al. (JP 61-167407) (English translation previously submitted) (hereinafter “Uchida”) in view of Meyer (US 3,791,631) (hereinafter “Meyer”).

Uchida fails to disclose, teach, or suggest a method for forming at least one opening in a membrane pot comprising, in part, providing a mould for potting a membrane end, the mould comprising a base comprising an ejector portion and at least one formation for forming at least one opening in the membrane pot, and raising the ejector portion to demould the membrane pot, as recited in independent claim 1.

Uchida is directed to a process for the production of a hollow-fiber filtration membrane module utilizing a container 9 including side walls and bottom surface 12. (Uchida translation, page 4, third full paragraph and Fig. 2A.) As best understood, the method includes installing holes 5 in the bottom surface 12 of the container 9, inserting rods or tubes 11 into the holes 5, and inserting hollow fibers 2 into the container 9 through the container opening. A cross-linking resin is added to the container, covering the bottom of the fibers 2, but not completely covering the rods or tubes 11. The rods/tubes are removed to form throughholes to complete preparation of the filtration module. (Uchida translation, page 3, last paragraph.) Container 9 is intended to be an integral component of the filtration module prepared by Uchida and is therefore not a mould as presently recited. Thus, in contrast to the method of claim 1, not only does Uchida fail to provide a mould, let alone a mould having a base comprising an ejector portion and at least one formation for forming at least one opening in the membrane pot, but Uchida is also silent as to a demoulding step.

One skilled in the art would not have modified container 9 of Uchida to include an ejector portion as asserted in the Office Action because Uchida’s method does not involve demoulding. The proposed modification would impermissibly change a basic principle of how the Uchida process was designed to operate, namely formation of a filtration module without demoulding. Because Uchida does not demould the filtration module after curing, container 9 cannot be a mould as presently recited. The rejection of independent claim 1 therefore contains a clear error because the Examiner misidentified an element in the citation relied upon. Instead of serving as a mould, container 9 is intended to be an integral component of the filtration module prepared by Uchida. In at least one embodiment, for example, container 9 of Uchida is an acrylic resin

container which is filled with an epoxy resin to form the filtration module by bonding and cross-linking. (Uchida translation, Brief Explanation of Fig. 2.) Nor does Uchida contemplate a demoulding step. While Uchida specifies that removable rods/tubes 11 inserted to form the throughholes include a nonstick or releasable surface treatment, such as Teflon, no such disclosure is made regarding the material of container 9. (Uchida translation, page 4, third full paragraph.)

Upon reading Uchida, one skilled in the art would not have modified the Uchida process by including an extra step of demoulding, as taught by Meyer. Meyer is representative of various conventional manufacturing processes which include a demoulding step. The fact that Meyer discloses raising an ejector to demould a polymer resin product is inapposite. There has been no suitable objective evidence provided that there exists any motivation in Uchida to modify Uchida with Meyer. Uchida is directed to assembling, rather than demoulding, an integral filtration module. Without any motivation to demould, there would have been no motivation to provide a mould, let alone a mould with an ejector portion, as presently recited.

Even if Uchida and Meyer could be combined, the proposed combination still would not have resulted in a method comprising providing a mould for potting the membrane end, the mould comprising a base comprising an ejector portion and at least one formation for forming at least one opening in the membrane pot. Instead, the combination would have resulted in providing a non-removable potting container as taught by Uchida with a base having one or more features as taught by Meyer. Thus, Myer fails to cure deficiencies in Uchida.

As such, independent claim 1 is patentable over Uchida and Meyer, either alone or in combination. Claims 3, 4, 7-15, 17, 19 and 20 depend directly or indirectly from claim 1 and are patentable for at least the same reasons.

Claims 1-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Geary (US 3,442,002) (hereinafter "Geary") in view of Uchida, and further in view of Meyer.

Geary fails to disclose, teach, or suggest a method for forming at least one opening in a membrane pot comprising, in part, providing a mould comprising a base comprising an ejector portion and at least one formation for forming at least one opening in the membrane pot, and raising the ejector portion to demould the membrane pot, as recited in independent claim 1.

Geary is directed to a method of manufacturing a fluid separation apparatus. In Geary, a plurality of hollow filaments is placed in a tubular casing assembly 101, to which a mold unit

905b is bolted to one end. (Geary, col. 21, lines 30-33.) A gasket is positioned between the casing assembly and the mold unit and the mold cavity surrounds the ends of the groups of filaments. The mold unit includes inlet means 908a which communicates with the mold cavity for the supply of the liquid molding material. (Geary, col. 21, lines 44-47.) During rotation of the casing assembly and attached mold, a solidifiable liquid is introduced into the mold cavity. (Geary, col. 21, lines 48-55.) The mold unit is removed from the cast wall member 950, exposing the cast wall member 950 for further processing. (See Figs. 16 and 17.)

There has been no suitable objective evidence provided that there exists any motivation in Geary to modify Geary so as to provide openings in the membrane pot, let alone to provide openings in the membrane pot in the manner taught by Uchida. In contrast to Geary, Uchida fails to disclose use of a mold or a demolding step and therefore operates under principles inapplicable to Geary. Thus, one skilled in the art would not have modified the Geary mold to incorporate features of the non-removable potting cylinder of Uchida. Furthermore, one skilled in the art would not have modified the Geary method to provide openings in the membrane pot using removable rods/tubes that fit in base holes as taught by Uchida because the setup would be unlikely to withstand the centrifugal force applied during the Geary process.

One skilled in the art would also not have modified the base of Geary's mold unit 905b to include an ejector portion, as taught by Meyer, because such a modification would unnecessarily complicate the design of mold unit 905b. Mold unit 905b is already easily removed from casing assembly 101 via bolts 906 to release cast wall member 950. Nor would an ejector portion be necessary to place openings in the membrane pot, as evidenced by Uchida, assuming *arguendo* that such a modification to Geary would be desirable as asserted in the Office Action. Because the mold of Geary is bolted to the casing assembly containing the filaments, the proposed modification would improperly require substantial reconstruction and redesign of structural elements disclosed by Geary to operably incorporate an ejector portion in the mold base.

The rejection involves clear error because there is no suggestion to combine the teachings and suggestions of Geary, Uchida and Meyer, as advanced by the Examiner, apart from improperly using Applicant's invention as a template through a hindsight reconstruction of Applicant's claims. Upon reading Geary, one skilled in the art would not have been motivated to modify its teaching to provide openings in the membrane pot as taught by Uchida, and would also not have been motivated to eject the membrane pot in the manner taught by Meyer. See

Innogenetics, N.V. v. Abbott Labs., 512 F.3d 1363 (Fed. Cir. 2008) citing Graham v. John Deere Co., 383 U.S. 1, 36 (1966) (discussing “the importance of guarding against hindsight... and resist[ing] the temptation to read into the prior art the teachings of the invention in issue”).

As such, independent claim 1 is patentable over the cited combination. Claims 2-20 depend directly or indirectly from independent claim 1 and are therefore patentable for at least the same reasons.

CONCLUSION

In view of the foregoing remarks, reconsideration and withdrawal of the rejections is respectfully requested. This application should be in condition for allowance, and a notice to that effect is respectfully requested.

A petition and fee for a two month extension of time, and a notice of appeal is included herewith. If this pre-appeal brief request for review is not considered timely filed, and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this pre-appeal brief request for review, including an extension fee, which is not covered by an enclosed payment, please charge any deficiency to Deposit Account No. 50/2762, Ref. No. M2019-701440.

Respectfully submitted,
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Attorney Docket No.: M2019-701440